

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6107

Tariff Filing of Green Mountain Power)
Corporation requesting a 12.9% rate increase)
increase, to take effect June 22, 1998)

PREFILED SURREBUTTAL TESTIMONY OF
W. STEVEN LITKOVITZ
ON BEHALF OF THE
VERMONT DEPARTMENT OF PUBLIC SERVICE

November 13, 2000

Summary: The purpose of Mr. Litkovitz's testimony is to support the sections of the Third Memorandum of Understanding between the Green Mountain Power Corporation and the Department of Public Service that address: 1) system reliability and worker safety standards in the service quality and reliability plan; and 2) capital budgets.

Prefiled Surrebuttal Testimony
of
W. Steven Litkovitz

1 Q. Please state your name and occupation.

2 A. My name is W. Steven Litkovitz. I am an Electrical Engineer for the State of Vermont
3 Department of Public Service (Department).

4 Q. Please state the primary duties of your present position.

5 A. My primary responsibility is to review the appropriateness of Vermont electric utilities'
6 transmission and distribution operations, plans, and facilities.

7 Q. Please state your experience and qualifications.

8 A. I have held my present position since July 1993. From 1988 to 1993, I was an
9 Electrical Engineer for the Massachusetts Department of Public Utilities (MDPU). At the
10 MDPU I was responsible for engineering and financial analysis in numerous electric utility
11 regulatory proceedings. Before working with the MDPU, I taught secondary level Physics and
12 Electricity for two years. Previous to this, I worked as an Electrical Engineer in Training for the
13 Cleveland Electric Illuminating Company and the Boston Edison Company. I received a
14 Bachelor of Science in Engineering degree in Electrical Engineering from the University of
15 Michigan in 1981, a Master of Science degree in Electric Power Systems Engineering from the
16 Ohio State University in 1982, and a Master of Business Administration degree from the Ohio
17 State University in 1984.

18 Q. Have you testified previously before the Vermont Public Service Board (Board)?

19 A. Yes. I have provided testimony to the Board in Dockets No. 5270-ROCH-1, 5750,
20 5760, 5822, 5857, 5980, 5987, 6043, 6033, 6053, 6083, 6110, 6142, 6158, 6252, and
21 6217.

1 Q. What is the purpose of your testimony in this case?

2 A. The purpose of my testimony is to support the sections of the Third Memorandum of
3 Understanding (Third MOU) between the Green Mountain Power Corporation (GMP or
4 company) and the Department that address: 1) system reliability and worker safety standards
5 in the service quality and reliability plan; and 2) capital budgets.

6 **Reliability Standards**

7 Q. This section of your testimony considers distribution system reliability and the establishment of
8 reliability standards as part of the service quality and reliability plan (SQRP). Why is the
9 Department addressing the company's system reliability at this time?

10 A. The assurance that electric power will be available to customers is of vital importance
11 to Vermonters. Given the progress and changes in our society, Vermont has become ever
12 more dependent on electricity. It is no exaggeration to state that our health, safety, and
13 economic strength all depend on the reliable delivery of electricity. At the present time, the
14 Department is concerned that the financial pressures, reduced workforce, and lower capital
15 budgets experienced by GMP could have a negative impact on the reliability of its distribution
16 system.

17 Q. Has the Department heard from Vermont consumers on the issue of electric system reliability?

18 A. Yes. The most common concerns that we hear from customers on electric system
19 reliability regard the frequency and duration of outages. Besides general irritation, consumers
20 tell us of food spoilage, the inability to work from their homes, and lost business revenue.
21 Consumers also express to us concerns that electric utility workforce reductions and
22 restructuring could have a negative impact on reliability. We often hear from consumers that
23 they are willing to pay a fair price for electricity, as long as their electric service remains reliable.

24 Q. Has the Public Service Board addressed the issue of electric system reliability and reliability

standards?

A. Yes. At least as far back as 1959, the Board has required utilities to report on significant electric outages. More recently, in its Order in Docket No. 5854, the Board stated that

[r]eliable electric service is essential to Vermont's households and businesses. Therefore, the integrity of the transmission and distribution network must be maintained or improved. The Board should set high reliability and service quality standards...

Docket No. 5854, Order of 12/30/96, p. 97.

Also, on November 1, 2000, the Board's recently adopted Rule 4.900, Electricity Outage Reporting, became effective. This rule requires that all of Vermont's electric distribution utilities record outages and report on system reliability in a uniform manner. The standards that I discuss below are consistent with, and have their foundation in, Rule 4.900.

Q. What are the reliability standards that have been agreed to in the SQRP?

A. The reliability standards agreed to in the SQRP establish a maximum acceptable level of average outage frequency and average outage duration. The indices used to measure outage frequency and duration are those specified in Rule 4.900, i.e., the system average interruption frequency index (SAIFI) and the customer average interruption duration index (CAIDI). Specifically, SAIFI is a measure of the number of outages experienced by the average customer in a year, and CAIDI is a measure of the average length of outages, measured in hours, in a given year. SAIFI and CAIDI, as reported by GMP, would be net of the effects of outages associated with major storms. Frequency and duration standards would be set for the GMP system as a whole, and for each of the Western, Central, and Southern divisions. Details on the reliability standards can be found in Exhibit DPS-DLF-Sreb. 1, pages 11 to 13.

Q. Have actual numerical standards for GMP's system reliability been set?

1 A. Numerical standards for system-wide outage frequency and duration have been set.
2 We propose, for 2001, a system-wide SAIFI standard of 1.6 and a system-wide CAIDI
3 standard of 2.3 hours. SAIFI and CAIDI standards for GMP's Western, Central, and
4 Southern divisions for 2001 are pending, and we propose that they be filed with the Board no
5 later than March 15, 2001. SAIFI and CAIDI standards, both system-wide and for the
6 divisions for 2002, would be established through a cooperative effort between the Department
7 and GMP and filed with the Board no later than January 15, 2002.

8 Q. How did you arrive at the numerical standards stated above?

9 A. The standards stated above are based on historical reliability data for GMP for the
10 period 1995 through 1999. I note that GMP's reliability data from 1995 through July 1999
11 was recorded using a definition for outages that was less encompassing than that specified in
12 Rule 4.900. Because of this, the data for these years was adjusted, using engineering
13 judgement, in an attempt to be consistent with the definition for outages employed by the Board
14 in Rule 4.900. Based on the adjusted data, we then set, to the best of our ability, standards for
15 SAIFI and CAIDI that reflect the average of GMP's reliability performance over the past five
16 years.

17 Q. Why were standards set to reflect GMP's average performance of the past five years?

18 A. With the limited data that was available, the Department compared GMP's reliability
19 performance over the past five years against the performance of other Vermont utilities and
20 against the performance of other utilities across the country. We found that, in general, GMP's
21 reliability performance was satisfactory and provides a reasonable basis for a first-year
22 standard. The Department's concern, as discussed earlier in my testimony, is that GMP's
23 reliability not degrade from present levels due to financial pressures, reduced workforce, and
24 lower capital budgets. In fact, the Department expects that future reliability standards will likely
25 be more stringent than the standards adopted for 2001 and reflect our expectation that GMP's
26 reliability should improve over present levels. Our expectations for higher standards and

1 reliability improvement come from the following: First, the Board in its Order in Docket No.
2 5854 states that it “should set high reliability and service quality standards.” Second, GMP has,
3 over the past two years, embarked on a comprehensive vegetative management and pole
4 inspection program that we expect will lead to improved system performance. And third, over
5 the next few years, GMP will be upgrading its physical plant and constructing projects that have
6 been postponed over the past several years. These projects, when complete, should enhance
7 its system performance going forward.

8 Q. Are there other aspects to the proposed reliability standard?

9 A. Yes. Notwithstanding actual system-wide or district performance, GMP would
10 identify, on an annual basis, the areas of its system that experience the worst reliability and
11 determine whether cost-effective solutions are available to improve these areas. Details on this
12 aspect of the proposal are available in Exhibit DPS-DLF-Sreb. 1, page 12.

13 **Safety Standards**

14 Q. This section of your testimony addresses the establishment of company worker safety
15 standards. Why is the Department addressing worker safety standards at this time?

16 A. The Department is addressing worker safety standards for the same reasons that it
17 considered reliability standards. Specifically, the Department seeks to ensure that the financial
18 pressures, reduced workforce, and lower capital budgets experienced by GMP not have a
19 negative impact on worker safety.

20 Q. What indices do you propose for measuring worker safety?

21 A. We are proposing two indices: annual recordable injuries per thousand miles of
22 primary distribution line (Recordable Injuries) and annual employee lost days per thousand
23 miles of primary distribution line (Lost Time Injuries). Details on these indices are available in
24 Exhibit DPS-DLF-Sreb. 1, pages 10 and 11.

1 Q. Have numerical standards for these indices been set?

2 A. Yes. We propose that, for the years 2001 and 2002, Recordable Injuries be no
3 greater than 7.4 and Lost Time Injuries be no greater than 26.1.
4

5 Q. How did you arrive at the numerical standards stated above?

6 A. The standards stated above are derived from historical safety data for GMP for the
7 period 1995 through 1999 and are based on the average GMP safety performance during this
8 period.

9 Q. Why were standards based on an average of the past five years?

10 A. The Department compared GMP's historical safety performance with that of other
11 electric utilities in New England and nation-wide. We found that the company's performance
12 compared favorably with those of other utilities. As such, we concluded that a recent five-year
13 average provided a reasonable basis for an initial standard, and that this standard adequately
14 addresses our concern that the safety afforded GMP's workers not degrade from present levels
15 due to financial pressures, reduced workforce, or lower capital budgets.

16 **Capital Budgets**

17 Q. Has the Department reached agreement with GMP regarding capital budgets?

18 A. Yes. The Department and GMP have agreed to minimum capital budget amounts for
19 the years 2001 through 2004 and to continued consultation on capital projects and spending
20 levels. The details of this agreement are in the Third MOU, paragraph 18.

21 Q. What is the background to this agreement?

22 A. Because of the financial pressures experienced by GMP over the past several years, the
23 company has curtailed capital spending in a manner that is not sustainable by the system over
24 the long term and that has created a backlog of capital projects. This situation was recognized

1 and addressed in the Second Amendment to Memorandum of Understanding (Second
2 Amendment), in this docket, which was approved by the Board on December 17, 1999. In
3 relevant part, the Second Amendment states that

4 GMP agrees to spend in a prudent and cost effective manner at least
5 the amounts set forth in the financial forecasts underlying this temporary
6 rate increase, or such other amounts as GMP and the Department may
7 agree, until further order of the Board. GMP acknowledges that this
8 spending level, while adequate for the upcoming year, is not adequate
9 for the long term. Accordingly, GMP agrees to prepare plans for long
10 term capital plant investment in consultation with the Department's
11 engineering staff, that reflect both a proper level of ongoing investment
12 and expenditure and catching up on any backlog within a reasonable
13 period. GMP agrees to implement such plans as soon as reasonably
14 possible during 2001.

15 Docket No. 6107, Order of 12/17/99, Appendix I, p. 6.

16 In accordance with the Second Amendment, the Department's engineering staff and GMP have
17 been meeting, at least once per month, during the year 2000 to address the infrastructure needs
18 of GMP and to arrive at appropriate capital spending levels moving forward. The minimum
19 capital spending levels that have been agreed to are shown in Attachment E to the Third MOU.

20 Q. How did the Department and GMP arrive at these spending levels?

21 A. Looking out through the year 2004, GMP and the Department agreed on a list of
22 transmission, distribution, power production, safety, and environmental capital projects, along
23 with an estimated cost to each project, that would be necessary for GMP to continue to
24 provide safe, efficient, and reliable service to its customers. These projects were then assigned
25 to one or more of the years 2001 through 2004 based on the priority of the project, the time
26 required to complete the project, and the anticipated year of need. As part of our
27 deliberations, GMP and the Department remained mindful of the cash-flow constraints of the
28 company, especially for the year 2001. To the annual capital cost totals, a contingency amount
29 was added to reflect projects that would likely be required, but that are unforeseen at this time.
30 The resultant annual dollar figures for the years 2001 though 2004 are shown in the Third
31 MOU, Attachment E. These dollar figures establish the minimum capital expenditures for the

1 years shown.

2 Q. Given that GMP and the Department began this process with a list of specific projects that
3 would be needed over the next several years, why did the parties agree to minimum dollar
4 amounts rather than to the completion of the specific projects themselves?

5 A. The Department and GMP viewed the tabulation of specific projects as a rough guide
6 to upcoming capital needs. We recognized that the farther one goes out into the future, the less
7 certain one can be on the need for, or timing of, specific projects. Because of this, we wanted
8 to provide GMP with the flexibility it would need to account for changes in available
9 information, project costs, load levels, and the location of new loads. We also wanted to avoid
10 any disincentive to the efficient execution of projects. We believed that the best way to provide
11 this flexibility was to avoid the listing of specific projects, and alternatively, to set minimum
12 capital expenditure levels.

13 Q. Are there other aspects to the agreement between the Department and GMP on capital
14 budgets?

15 A. Yes. Consistent with the Second Amendment, the Department and GMP will continue
16 their on-going discussions regarding capital budgets, specific projects, and the plans and
17 expenditures related to non-capital maintenance, repair, and refurbishment of transmission and
18 distribution plant, generating plant, and right-of-way maintenance. Also, the agreement
19 provides flexibility to both GMP and to the Department to seek adjustments to the minimum
20 capital budget amounts, either through mutual agreement or through petitioning the Board.

21 Q. Does this conclude your testimony?

22 A. Yes, it does.